SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1923.

No. 830.

HARRY B. STILZ, APPELLANT,

vs.

THE UNITED STATES.

APPEAL FROM THE COURT OF CLAIMS.

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1 Court of Claims of the United States.

HARRY B. STILZ
vs.
THE UNITED STATES.
No. B–25.

I. *History of proceedings.*

On February 16, 1922, the plaintiff filed his original petition.

On March 7, 1922, the defendant filed a demurrer to said petition.

Subsequently, to wit, on March 24, 1922, by leave of court, the plaintiff filed his amended petition.

On April 10, 1922, by leave of court, the demurrer to the original petition was withdrawn by defendant.

The amended petition, filed March 24, 1922, is as follows:

2 II. *Amended petition.*

Filed March 24, 1922.

To the honorable the COURT OF CLAIMS.

The claimant, Harry B. Stilz, respectfully represents:

I. He is a resident of the city of Philadelphia, in the county of Philadephia and State of Pennsylvania.

II. On the 18th day of November, 1908, claimant, being within the meaning of the statutes of the United States then in force, the inventor of certain improvements in oil burners and being entitled to a patent thereon under the provisions of said statutes, duly filed in the Patent Office of the United States on application for letters patent for said invention; and on the 11th day of January, 1910, all the requirements of the statutes then in force having been complied with, letters patent of the United States, No. 945873, were duly issued pursuant to said application, and thereby claimant became, and now is and continues to be, the sole and exclusive owner of said letters patent of the United States and of the invention or improvement therein described and claimed.

III. On the 8th day of May, 1911, claimant, being within the meaning of the statutes of the United States then in force, the inventor of certain improvements in oil burners and being entitled to a patent thereon under the provisions of said statutes, duly filed in the Patent Office of the United States an application for letters patent for said invention; and, on the 1st day of July, 1913, all of the requirements of the statutes then in force having been complied with, letters patent of the United States, No. 1066161, were duly issued pursuant to said application, and thereby claimant became and now is and continues to be, the sole and exclusive owner of said letters patent of the United States and of the invention or improvement therein described and claimed.

IV. Claim 2 of patent No. 945873 and claims 1, 6, and 7 of patent No. 1066161 broadly cover a new principle in the art of burning oil, which has been widely demonstrated to be an epoch-making improvement.

V. Said improvement was reduced to practice as a demonstrated success during August of 1910. Shortly afterwards, the Bureau of Steam Engineering, Navy Department, made and tested, at the Philadelphia Navy Yard, fuel-oil burners in which said principle was embodied.

VI. The Navy Department, since then, has manufactured, at the Philadelphia Navy Yard, oil burners which infringe said patents, and oil burners which likewise infringe said patents have been manufactured for the United States by the Schutte & Koerting Co. of Philadelphia, the Babcock & Wilcox Co. of New York, the Bethlehem Shipbuilding Corporation (Ltd.), and probably others.

VII. With comparatively few exceptions, said infringing oil burners were manufactured by or for the United States during the six years prior to Feb. 16, 1922, and they continue to be used by the United States to the present day.

VIII. Claimant has given notice of said letters patent, as required by the statute in such case provided.

3 IX. The invention described in and covered by said letters patent of the United States, #1066161, has been used and manufactured by and for the United States, during the six years prior to the filing of this petition, without license or lawful right to use or manufacture the same. Claimant therefore seeks his remedy by a suit herein for the recovery of his reasonable and entire compensation, in accordance with the act of June 25, 1910, chapt. 423 (36 Stat. L. 851), amended by the act of July 1, 1918, chapt. 114 (40 Stat. 704).

X. By reason of the facts aforesaid there is justly due to claimant from the United States a sum of money equal to the difference in the cost of oil fuel, which has been burned, during the six years preceding Feb. 16, 1922, by means of said infringing oil burners and the cost of oil fuel, which would have been consumed in order to obtain the same results, during the same time, had it been burned by means of the next best oil burner, which was then on the market, plus such royalties as the United States might have been obliged to pay for the right to use the latter burner, plus the reduction in first cost of boilers, equipment, etc., required to deliver the maximum power desired in the various installations, which have been made by and for the United States, where fired with said infringing oil burners from what said first cost would have been, had any other oil burner been used for firing said boilers.

XI. No other action has been had on said claim in Congress or by any of the departments; no person, other than the claimant, is the owner thereof or interested therein; no assignment or transfer of this claim, or any part thereof or interest therein, has been made; the claimant is justly entitled to an amount as herein claimed from

the United States, after allowing all just credits and offsets; the claimant has at all times borne true allegiance to the Government of the United States and has not in any way voluntarily aided, abetted, or given encouragement to rebellion against the said Government. The claimant is a citizen of the United States.

Claimant therefore prays that defendant may be decreed to account for and pay to claimant the gains unlawfuly derived from the violation of claimant's rights.

HARRY B. STILZ.

[Jurat showing the foregoing was duly sworn to by Harry B. Stilz omitted in printing.]

4 III. *Argument and submission of case.*

On June 4, 1923, this case was argued and submitted on merits by Mr. Harry B. Stilz, for plaintiff, and by Mr. John W. Loveland, for defendant.

IV. *Proceedings after submission of case.*

On November 5, 1923, the court filed findings of fact and conclusion of law and entered a judgment dismissing the petition, with an opinion by Booth, J.

On November 19, 1923, the plaintiff filed a motion for a new trial, and for amendment of findings.

V. *Orders of Court entered December 17, 1923.*

IT IS ORDERED BY THE COURT that the plaintiff's motion for amendment of findings be and the same is allowed in part and overruled in part. The former findings of fact are vacated, set aside, and withdrawn, and amended findings are this day filed—the former judgment and opinion to stand.

The plaintiff's motion for a new trial is overruled.

5 VI. *Amended findings of fact, conclusion of law, and opinion of the court by Booth, J. Entered December 17, 1923.*

This case having been heard by the Court of Claims, the court, upon the evidence, makes the following

Amended findings of fact.

I.

At various times from 1900 to 1911, inclusive, the plaintiff, Harry B. Stilz, was in the employ of the United States. From 1900 to 1905 he was an employee in the Bureau of Construction and Repair of the Navy Department, and subsequently he was at various times

in the employ both of private shipbuilding companies and of the United States navy yards at Philadelphia, Pa., and Mare Island, California. During all of the time of such employment his duty and work included the examination, designing, and making of drawings relating to oil burners or oil-burning devices for oil-heated furnaces, and he had access to the various drawings, blueprints, and publications relating to such devices, at the places where he was employed.

II.

On November 18, 1908, plaintiff filed an application in the United States Patent Office for letters patent for certain improvements in oil burners, upon which application there were granted to him, under date of January 11, 1910, United States Letters Patent No. 945873, a copy of which is by reference made a part of these findings of fact as Exhibit A.

III.

On the 8th of May, 1911, the plaintiff, while in the employ of the United States at the Mare Island Navy Yard, filed an application with the United States Patent Office for letters patent on certain improvements in oil burners, upon which application there were granted to him, under date of July 1, 1913, United States Letters Patent No. 1066161, a copy of which is by reference made a part hereof as Exhibit B.

6 The proceedings in the Patent Office upon said application are shown by the file wrapper and contents of the case, a copy of which is by reference made a part hereof as Exhibit B–1.

IV.

In the successful burning of oil for fuel the oil must be atomized; that is, reduced to the form of fine spray, to permit of its admixture with the proper amount of air necessary for combustion; and at the time of the filing by plaintiff of his said applications for letters patent there were, as appears from the prior art hereinafter disclosed, two general types of oil burners in use for the firing, or heating, of boilers or furnaces. These types differed in the method of the atomization of the oil, and were generally known and referred to as "mechanical atomizers" and "steam atomizers."

In the mechanically atomizing burner the oil was atomized by purely mechanical means by being projected, under great pressure, from the burner into the furnace in a whirling cone-shaped film, which almost immediately developed into a fine spray, air for combustion being admitted through a surrounding air register and becoming more or less intimately intermixed with the oil spray.

In the so-called steam atomizer burner there was a combination with the stream of oil, while yet within the burner proper, of a stream of steam, or of air or other gaseous fluid under pressure, for the purpose of aiding in the atomization of the oil, the air for combustion being admitted and intermixed with the oil spray as in the case of the mechanically atomizing burner.

V.

In the prior art to which the plaintiff's said Letters Patent No. 945873 relate there were, among others, the structures disclosed by the following patents and publications, which are hereby made a part of these findings of fact as Exhibits C–1 to C–17, inclusive:

1. British patent No. 2414, to Norton and Hawksley, Aug. 22, 1867—Exhibit C–1.

2. U. S. patent No. 391865, to Schutte, Oct. 30, 1888; application filed Nov. 5, 1887—Exhibit C–2.

3. U. S. patent No. 481088, to Chaney and Wires, Aug. 16, 1892; application filed Jan. 12, 1892—Exhibit C–3.

4. British patent No. 17938, to Rusden and Eeles, July 25, 1896; application filed Sept. 25, 1895—Exhibit C–4.

5. U. S. patent No. 584951, to Moore, June 22, 1897; application filed Nov. 21, 1896—Exhibit C–5.

6. U. S. patent No. 629338, to Chelimsky, July 25, 1899; application filed Nov. 29, 1898—Exhibit C–6.

7. U. S. patent No. 630320, to Billow, Aug. 8, 1899; application filed June 28, 1898—Exhibit C–7.

8. U. S. patent No. 638340, to Kermode, Dec. 5, 1899; application filed Dec. 5, 1898—Exhibit C–8.

9. British patent No. 24021, to Carr, Oct. 22, 1903; application filed Nov. 3, 1902—Exhibit C–9.

10. United States naval report, "Liquid Fuel," published in 1904, pages 70 to 100, 215 to 270, and 320 to 363—Exhibit C–10.

7 11. British patent No. 15269, to Kermode, July 8, 1905; application filed July 8, 1904—Exhibit C–11.

12. British patent No. 3089, to Armstrong, Jan. 19, 1905; application filed Feb. 8, 1904—Exhibit C–12.

13. British patent No. 10326, to Meyer, Jan. 24, 1907; application filed May 2, 1906—Exhibit C–13.

14. U. S. patent No. 903736, to Lee, Nov. 10, 1908; application filed Aug. 15, 1907—Exhibit C–14.

15. Blue print of drawing of Bureau of Steam Engineering, Navy Department, Washington, D. C., Jan. 6, 1908, No. "11–Y–130," sheet 1—Exhibit C–15.

16. London, England, publication, "Engineering," of June 19, 1908, pages 805 to 808—Exhibit C–16.

17. Photographic copy of drawing No. "11–Y–139," Department of Steam Engineering, Navy Yard, Norfolk, Va.—Exhibit C–17.

VI.

In the prior art to which the plaintiff's said Letters Patent No. 1066161 relate, there were, in addition to the structures shown by the patents and publications set forth in Finding V, as Exhibits C–1 to C–17, the structures, or devices, disclosed by the following patents and publications, which are hereby made a part of these findings of fact as Exhibits D–1 to D–9, inclusive:

1. French patent No. 396292, to Corneuve; application filed Oct. 29, 1908; delivered Jan. 22, 1909; published Apr. 6, 1909—Exhibit D–1.

2. French patent No. 396476, to Pages; application filed Jan. 27, 1908; delivered Jan. 28, 1909; published Apr. 13, 1909—Exhibit D–2.

3. Blue print of drawing No. "A 643" by Schutte & Korting Co., Philadelphia—Exhibit D–3.

4. French patent No. 396955, to Normand; application filed Dec. 1, 1908; delivered Feb. 9. 1909; published Apr. 26, 1909—Exhibit D–4.

5. British patent No. 20653, to Bevis, Oct. 1, 1909, application filed Oct. 1, 1908—Exhibit D–5.

6. British patent No. 15747, to Laing, Aug. 8, 1910; application filed July 6, 1909—Exhibit D–6.

7. U. S. patent No. 1020048, to Normand, Mar. 12, 1912; application filed Nov. 11, 1909—Exhibit D–7.

8. U. S. patent No. 1025279, to Laing, May 7, 1912; application filed Feb. 16, 1910—Exhibit D–8.

9. U. S. patent No. 1023707, to Anthony, Apr. 16, 1912; application filed June 1, 1910—Exhibit D–9.

VII.

Since the granting to the plaintiff of his said Letters Patent Nos. 945873 and 1066161, and subsequent to February 16, 1916, there have been manufactured or used by the United States oil burners and equipment alleged by plaintiff to infringe his said letters patents of the type and character shown by the following blue prints and photographic copies of drawings, which are hereby made a part of these findings of fact as Exhibits E–1 to E–7, inclusive:

8 1. Blue prints of tuyere and burner for "U. S. T. B. destroyers," Bath Iron Works, Bath, Maine; file Nos. 0294 and 0295—Exhibits E–1 and E–2, respectively.

2. Blue print of Navy "Bureau standard natural forced draft air register," file No. 414; and photoprint of "Bureau standard natural forced draft register"—Exhibits E–3 and E–4, respectively.

3. Blue print showing "Arrangement of Yarrow boiler," file No. 0118; and photoprint of "Bureau standard register (Cramp modification)"—Exhibits E–5 and E–6, respectively.

4. Photoprint of "Peabody register and burner"—Exhibit E–7.

As appears from said exhibits and other evidence in the case, said oil burners and equipment provided for the atomization of the oil

by means of its projection into the furnaces under heavy pressure through spiral passages in the nozzle end of the burner in a whirling cone-shaped film of oil, which almost immediately upon leaving the nozzle of the burner developed into a fine spray. The air for combustion was furnished under mild blower pressure in the furnace room through an air register surrounding the burner and burner opening into the furnace, this air register being provided with vanes or other means for giving the air a whirling motion to facilitate the intermixture with the oil spray around and into which it was discharged, the oil and the air being whirled in the same direction. No steam, air, or other gaseous fluid was introduced into or used in the burner proper for any purpose nor used with any part of the equipment for the atomization of the oil, the air supplied through the air register encircling the burner proper being for supplying the oxygen sary for the combustion of the oil.

VIII.

The claims of the plaintiff's said letters patent, for infringement of which recovery is sought by plaintiff in this suit, are claim 2 of Letters Patent No. 945873 and claims 1, 6, and 7 of Letters Patent No. 1066161.

IX.

The devices of said Letters Patent No. 945873 are illustrated by the patent drawing reproduced and shown in the appendix hereto. Figure 1 of the drawing is a sectional elevation through the nozzle and connections at right angles to the axis of the nozzle. Figure 2 is a section through the axis of the nozzle. Figure 3 is a plan view of the burner with a part of the furnace shown in section, and it also shows the circular air register attached to the end of the furnace, through the center of which the oil is projected from the nozzle of the burner into the furnace, and through the ports of which, 14, the air for combustion passes into the furnace.

The invention provides for the use of steam, air, or other gaseous fluid under pressure in the following manner, as an aid in the atomization of the oil. Referring to the drawing, oil under heavy pressure passes through the supply pipe 9, filter 8, and port 4 and is discharged tangentially into the annular space of the nozzle, between the outer casing 1 and the center plug 2, thus giving the oil
9 a rotary motion in the nozzle. The steam or other fluid under pressure passes through the pipe 10 and port 5 and is also discharged tangentially into said annular space of the nozzle, in the same direction as the oil, with which it rotates and mixes, disintegrating or atomizing the oil, which issues from the orifice 3 of the nozzle at a high velocity through the air register and into the furnace in a cone-shaped film and spray. Air for combustion is supplied through the ports 14 of the air register, the air encircling and mixing

with the oil spray in the air register, and in the furnace, where combustion takes place.

Claim 2 of this patent, alleged by plaintiff to be infringed by the United States by the manufacture or use of the devices specified and described in Finding VII, reads as follows:

"A nozzle having a restricted discharge orifice and independent inlets for a gaseous fluid and a liquid, there being a passage from each of said inlets to the discharge orifice, said passages having a portion in common which forms a mixing chamber, and each of said passages being arranged to produce a rotary motion in the fluid passing therethrough toward the discharge orifice."

The patent drawing illustrating the devices of plaintiff's said Letters Patent No. 1066161 is shown in the appendix hereto. Figure 1 of the drawing is a longitudinal section through the burner end of a furnace 1, equipped with an air register 4 and burner 7. Figure 2 is a transverse section of the furnace on line 2–2 of Figure 1. Figure 3 is a transverse section through the nozzle of the burner. Figure 4 is a central longitudinal section through the nozzle.

The devices of this patent also provide for the use of steam, air, or other gaseous fluid under pressure as an aid in the atomization of the oil, but in a different manner from that provided by the devices of patent No. 945873, the operation here being as follows:

Referring to the drawing, oil under heavy pressure is forced through the pipe 9, spiral 15, and orifice 14 into and through the front of the annular space 18, between the inner casing 12 and outer casing 17 of the nozzle, in a rapidly rotating cone-shaped film. The steam, air, or other fluid under pressure passes through the pipe 10 and is discharged tangentially into the said annular space 18, rotating around in it and toward the discharge outlet 19 in a whirling layer. The oil leaving the inner orifice 14 in a conical film or spray is struck by the rotating steam before it passes through the outer orifice 19, which steam aids in the atomization of the oil.

Air for combustion is supplied through the ports 5 of the circular air register 4 attached to the furnace front, and through the center of which the oil is projected from the nozzle of the burner into the furnace in a cone-shaped spray, the air from the register flowing in all around the oil spray and mixing with it in the register and in the furnace, where combustion takes place.

XI.

It does not appear that any of the devices of the plaintiff's said Letters Patent No. 945873 and No. 1066161 have been manufactured or used by the United States or that said letters patent have been infringed by the United States.

XII.

It does not appear from the evidence whether the plaintiff gave to the public the notice required by section 4900 of the U. S. Revised

Statutes as to the devices of his said letters patent being patented, or that he at any time during the alleged infringement of said letters patent for which recovery is sought by him notified the defendant of such alleged infringement.

XIII.

At the time of the filing of the plaintiff's petition in this suit there were pending in the United States District Courts for the Southern District of New York and the Eastern District of Pennsylvania, respectively, suits by the plaintiff against the Babcock and Wilcox Company, of New York City, and the Schutte & Koerting Company and the Bethlehem Shipbuilding Corporation, of Philadelphia, Pa., for an injunction against each of the defendants in said suits and an accounting by them for profits for alleged infringement by them of the plaintiff's said Letters Patent No. 1066161 in the manufacture and sale by them of certain oil burners, some of which were alleged to have been sold to the United States Navy for installation and use on naval vessels of the United States.

It appears from the evidence that the suit against the Babcock & Wilcox Company was pending in the court as late as February 14, 1922, and the suit against the Schutte & Koerting Company and the Bethlehem Shipbuilding Corporation as late as January 22, 1923; and it does not appear that either suit has yet been dismissed or otherwise finally disposed of in said courts.

Conclusion of law.

Upon the foregoing findings of fact the court decides, as a conclusion of law, that the petition herein should be, and the same is, dismissed.

Appendix.

H. B. STILZ.

OIL BURNER.

APPLICATION FILED NOV. 19, 1908.

945,873. Patented Jan. 11, 1910.

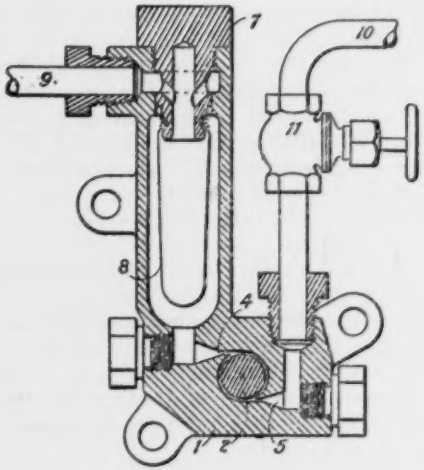

FIG. 1

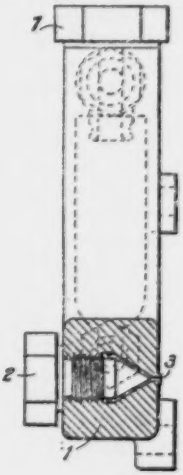

FIG. 2

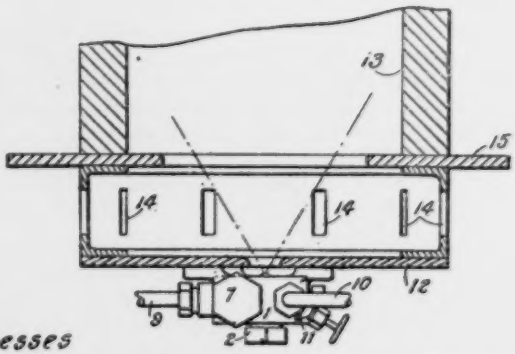

FIG. 3

Witnesses

Inventor

Harry B. Stilz

H. B. STILZ.

OIL BURNER.

APPLICATION FILED MAY 6, 1911.

1,066,161. Patented July 1, 1913.

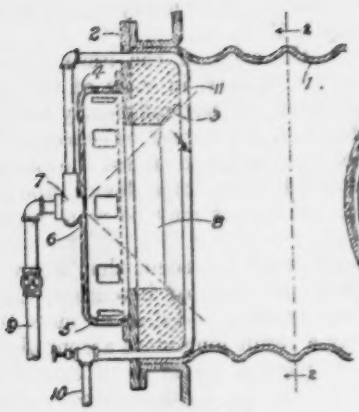

FIG. 1

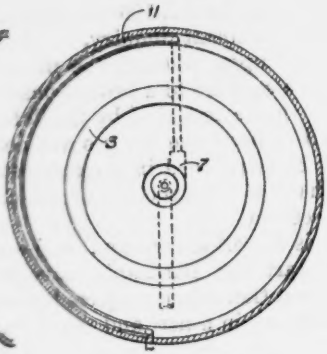

FIG. 2

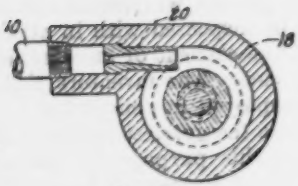

FIG. 3

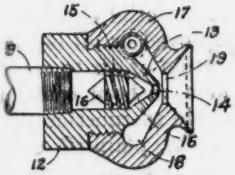

FIG. 4

Witnesses
L. V. Bardeen
Ruby V. Bydges.

Inventor:
H. B. Stilz
per
Chamberlin Brandenburg
Attorneys.

BOOTH, *Judge*, delivered the opinion of the court.

The plaintiff brings this suit to recover for an alleged infringement of his patents. The case is here under the act of July 1, 1918, 40 Stat. 705, and compensation is sought for infringement of claim 2 of patent No. 945873 and claims 1, 6, and 7 of patent No. 1066161. The patents involved relate exclusively to oil burners. The plaintiff was granted Letters Patent No. 945873 on January 11, 1910, and Letters Patent No. 1066161 on July 1, 1913.

The pertinent inquiry, in fact, the crux of the issue, depends entirely upon whether the plaintiff's patents, in view of the prior art, are entitled to a broad construction, at least sufficiently broad to cover the devices used by the defendant, for it must be conceded that in all respects the devices are not identical, and unless the plaintiff may by the record in the case establish a user of a device, upon the mechanical construction of which his claims may be read, he may not recover.

It is a well-known and long-established precedent that where the prior art has inevitably narrowed the field of invention, and a patentee thereafter projects himself therein, and does no more than accomplish in a new and novel way a result long since accomplished, he can not assert the right of a primary patentee to extend his patent beyond the express limitations of his claims. *Singer Manufacturing Co.* v. *Cramer*, 192 U. S. 265.

Beginning in 1899, and from thenceforward, as shown by the numerous inventions set out in the findings, many inventors turned their attention to oil burners. The patents without exception disclose two essential elements, not to be dispensed with in all devices to be employed as oil burners, i. e., the element of *atomization* and the admission of air to cause combustion. The inventors, therefore, were and have been continuously employed in conceiving a device which would so function as to produce the greatest efficiency in this respect. The plaintiff dedicated to this purpose his two inventions. His first improvements, for which he secured Letters Patent No. 945873, is precisely stated in his specifications as intended to accomplish a fourfold purpose—first, "to construct a burner which will efficiently burn any of the different kinds of fuel oil used in practice; second, to reduce to a minimum the amount of air or steam used as an atomizing agency when starting the flame; third, to produce an oil spray which, when under normal firing conditions, will be sufficiently atomized to cause perfect combustion without the aid of an external atomizing fluid; and fourth, to render the system simple and easily accessible for cleaning." The device which was brought into existence to bring about these contemplated results was expressly designated by the inventor "to be an improvement in oil burners in which the oil is atomized principally by mechanical means." Claim 2 of the above patent, the only one alleged to be infringed by the defendant, is somewhat general in

language, but when read in conjunction with the specifications and detail references to the drawings, it is manifest that the inventor was claiming novelty for a device so constructed as to produce a higher degree of atomization than the old devices had produced by purely mechanical means. The claim recites: "A nozzle having a restricted discharge orifice, and independent inlets for a
14 gaseous fluid and a liquid, there being a passage from each of said inlets to the discharge orifice, said passages having a portion in common which forms a mixing chamber, and each of said passages being arranged to produce a rotary motion in the fluid passing therethrough toward the discharge orifice." The plaintiff does not contend that a restricted discharge orifice in an oil-burner nozzle is new; neither may he assert that producing atomization by a violent whirling motion is new. As a matter of course, in any device there must at least be a passage for the introduction of oil, so the improvement designed is necessarily restricted to the creation of a device so constructed that oil and steam may enter simultaneously at varying degrees of pressure into the mixing chamber he constructs, so that he may not only add to the velocity of rotation produced by mechanical means, but appreciably and effectively in disintegrating the oil and producing a much more perfect atomization of the same. While this may not be said to be a strictly mechanical device, still if you remove the element of gaseous fluids introduced in the mixing chamber you have the old mechanical method, old in the art, and the one the inventor was intending to improve. We can not escape this construction of the claim, because the plaintiff says in his specifications: "When starting the combustion, however, conditions are such that auxiliary means are useful to bring desired results. At this stage the oil should preferably be diluted with air, steam, or other gaseous fluid, which affords an additional agency for not only inducing a strong current of air supply, but also for distributing the atomized oil through a large volume." The *auxiliary means* employed to improve the old mechanical process was the introduction tangentially into the mixing chamber of the gaseous fluids as described for the express purposes hereinbefore alluded to. If the Government did not use this device, it is not an infringer.

In 1913 the inventor, a distinguished and expert mechanic, again secured Letters Patent No. 1066161 for improvements in oil burners, and it is now insisted that claims 1, 6, and 7 of this patent were infringed by the defendant. The imperfections, among many others, which he was seeking to remedy in the last device, as appears from the specifications, was the apparent inability of the old device to so atomize the oil that it might be readily ignited in the combustion chamber on a cold morning without producing too great a volume of smoke, and that certain qualities of oil, particularly California oil—of which State the inventor was a resident—could not be readily heated so that it would flash into a vapor upon delivery from the nozzle, where mechanical means of atomization were alone employed. Another serious defect of the old inventions was the restricted de-

livery orifice, which because of its size was subject to choking up. To overcome these apparent defects the plaintiff designed a device which retained the idea of a mixing chamber, but completely reversed the method of accomplishing the result. Instead of introducing the gaseous fluids into the chamber immediately surrounding the means adopted to produce a whirling motion, and there mixing the oil and gaseous fluids prior to their discharge through the restricted orifice, a separate casing was attached to and entirely surrounding the nozzle, with a much larger but still restricted orifice, concentrically located as to the smaller one, into which the gaseous fluids are introduced, passing through the casing in a whirling motion, thereby securing the coveted heating and greater atomization of the oil after it leaves the small and first restricted orifice, resulting, as claimed, in a much expanded triangle of vaporization and greatly improved atomization, and facilitating the use of any quality of fuel oil.

We set forth claims 1, 6, and 7 in the margin.[1]

Claim 1 covers in detail the detached device, and claims 6 and 7 the identical device in combination with a furnace. Reading the claims involved in the light of the specifications and the prior art, it is not for us to say in this litigation that the plaintiff failed in any particular to reach the goal he set out to negotiate. Granting the validity of all he claims, it must be conceded that if a user is content with a device falling short of attaining the perfection the patent in suit attains, we can not hold him responsible as an infringer if he does not trespass upon the newer and improved device by adopting its mechanism to attain the desired end. Neither may we do so if the alleged infringer attains by another and distinct device the very same result, if the art is so narrow as to preclude the assertion of a claim for more than an identic device to accomplish a purpose long since accomplished and old in the art. The plaintiff's patents, as we conceive them, are, so far as the record discloses, admirably adapted to secure an improved degree of atomization of fuel oil. The method he points out sets before the public a device which utilizes the agencies indispensable to be utilized, agencies well known and long employed, to attain improved atomization and fuel combustion and afford a practical oil burner, but we are unable to perceive that the plaintiff has done more than this. The history of the patents in the Patent Office is confirmative evidence of this fact. From an already crowded art he evolved a distinct device, differing in

[1] "1. A nozzle having a small discharge orifice, means immediately adjacent to said orifice for producing a whirling motion in a liquid fluid passing therethrough, a casing surrounding said nozzle and having a restricted discharge port concentric with said orifice and means for causing a gaseous fluid passing through the space within said casing to enter said port in a whirling current.

"6. In combination, a furnace having an admission hole through its casing, a nozzle having means for projecting a hollow cone-shaped film of oil from a round unobstructed delivery orifice into said furnace through said hole, means surrounding said nozzle for producing a whirling stream of gaseous fluid directed so as to penetrate said film of oil and means for supplying air into the furnace through said hole.

"7. In combination, a furnace having an admission hole through its casing, a lining of refractory material for said hole, a nozzle having means for projecting a hollow cone-shaped film of oil into said furnace through said hole, means surrounding said nozzle for producing a whirling stream of gaseous fluid directed so as to penetrate said film of oil, and means for supplying air into the furnace through said hole."

some important particulars from previous ones. For this device he secured letters patent, and unless the defendant seizes upon his patented device and takes advantage of the new and improved essential functioning elements of his device, it is not an infringer of the same. *Greene* v. *Buckley*, 135 Fed. 520.

If we are correct in the foregoing conclusion, the defendant is innocent of infringement. The defendant in its devices does not, and has not for a period antedating the granting of plaintiff's patent, used steam or other gaseous fluids in the process of antomization. The defendant made and used a device designated in the art as a mechanical oil burner, and in this device atomization is the result of mechanical means. The defendant's oil nozzle is devoid of any casing attached thereto, and it does not employ a mixing chamber where the oil and gaseous fluids are mixed, prior to discharge into the combustion chamber. Atomization in the defendant's device is produced by pressure and the rotation of the oil as it issues from the nozzle unaided by any extraneous gaseous fluids introduced into the nozzle or attached casing. We need not speak in detail of means employed to use air for combustion. Both employ an air register, manifestly old in the art. The record furnishes ample room for the statement that what the defendant made and used, and is now using, is substantially the old mechanical oil burner without the improvements claimed for in plaintiff's letters patent.

We have not been able to illustrate the defendant's device, as we have the plaintiff's, because the size of the drawings preclude their reproduction at any reasonable expense. Se we must be content with making the same part of the findings by reference.

A large number of authorities have been cited in the briefs filed. It is quite unnecessary to review them in detail. The fundamental principles of differentiation are obvious and elementary. The case presents to us the one issue, adverted to in the beginning of this opinion. We have been unable after mature deliberation to escape the conclusion that the plaintiff's claims to invention may not under the law be accorded a wider scope than the bringing into existence of improvements to a device old in the art, well known to the public, and in settled use. That the defendant did not make or use this identic device as improved is apparent from a mere examination of its exhibits. It seems to us impossible to read the claims of the plaintiff's patent alleged to be infringed upon the mechanical construction of the defendant's device.

There are several other defenses interposed to the plaintiff's right of recovery. We have given them consideration, but regard it as unnecessary to discuss them in view of what has been said. It would not do to say they are entirely without merit, but inasmuch as the issue may be determined without recourse thereto, we have deemed it unnecessary to prolong this opinion.

The petition will be dismissed. It is so ordered.

GRAHAM, *Judge;* HAY, *Judge;* DOWNEY, *Judge;* and CAMPBELL, *Chief Justice*, concur.

17 VII. *Judgment of the Court.*

At a Court of Claims held in the City of Washington on the Seventeenth day of December, A. D. 1923, judgment was ordered to be entered as follows:

The Court, upon due consideration of the premises, find in favor of the defendant, and do order, adjudge, and decree that the plaintiff, as aforesaid, is not entitled to recover and shall not have and recover any sum in this action of and from the United States; and that the petition herein be and the same hereby is dismissed.

BY THE COURT.

VIII. *Plaintiff's application for appeal.*

Filed Jan. 21, 1924.

The claimant, Harry B. Stilz, makes application to the Honorable Court of Claims for an appeal of the case. Harry B. Stilz vs. The United States, No. B–25, to the Supreme Court of the United States.

HARRY B. STILZ, *Claimant.*

IX. *Order allowing plaintiff's application for appeal.*

Filed Jan. 28, 1924.

IT IS ORDERED BY THE COURT that the plaintiff's application for appeal be and the same is allowed.

BY THE COURT.

18 Court of Claims of the United States.

[Title omitted.]

I, F. C. Kleinschmidt, Assistant Clerk Court of Claims, certify that the foregoing are true transcripts of the pleadings in the above-entitled cause; of the findings of fact (as amended), conclusion of law and opinion of the court by Booth, J.; of the judgment of the court; of the plaintiff's application for appeal; of the order of the court allowing said application.

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed the seal of said Court at Washington City, this second day of February, A. D. 1924.

[SEAL.] F. C. KLEINSCHMIDT,
Assistant Clerk Court of Claims.

[Indorsement on cover:] File No. 30,140. Court of Claims. Term No. 830. Harry B. Stilz, appellant, vs. The United States. Filed February 21, 1924. File No. 30,140.

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